

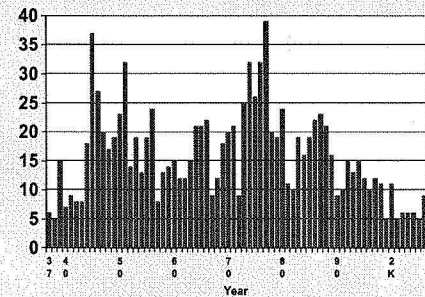
Plant Pest Control Branch



Hawaii Department
of Agriculture



Number of Immigrant Invertebrates 1937-2006



Plant Pest Control Branch (PPC)

When pests move past the initial port inspection set up by HDOA's Plant Quarantine Branch, PPC programs are activated:

- Detect and determine the extent of the pest problem (**Survey**)
- **Eradicate** pest
- If eradication is not possible, **Contain** and **Control** pest
 - Monitor pest populations and locations, evaluate effective containment and control techniques
 - **Research** best methods
- If containment is not possible, the long-term solution is **Biocontrol**

Current Surveys

- Red Imported Fire Ant
- Little Fire Ant
- Nettle Caterpillar
- Honeybee pests (incl. Varroa)
- Papaya Mealybug
- Light Brown Apple Moth

RIFA Survey

- Statewide survey of high risk areas
- Airports, sea ports, nursery
- Periodic baiting with spam



Typical RIFA Survey Locations



Nursery



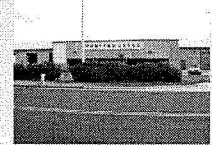
Turf Farm



Sea Port



Park



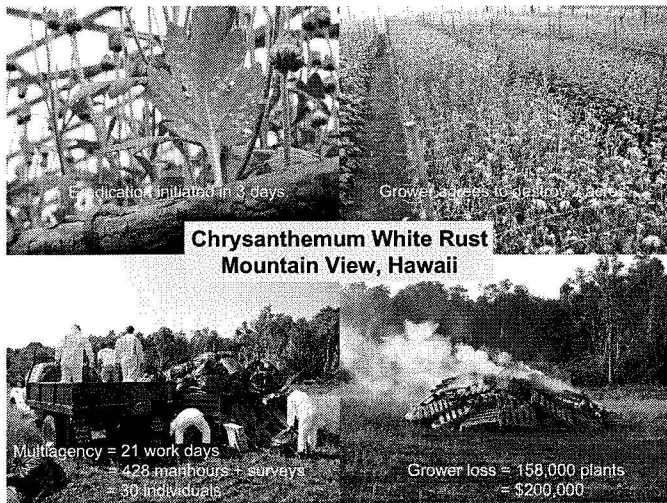
Air Cargo

Eradication

- Always 1st option.
- Delimiting surveys a must.
- Must plan for “overkill” and a major commitment of resources.

Chrysanthemum White Rust

- Discovered on Big Island in Jan 2004.
- Assisted grower in eradication.
- Surveys of all mum growers and retailers.
- Surveys of mum exporters to find source



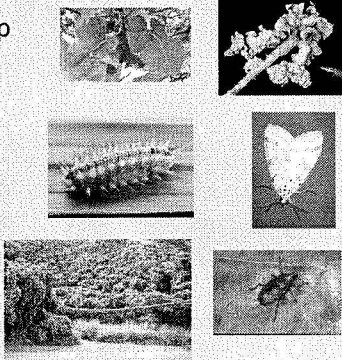
- Exclusion
- Detection
- Eradication
- Control
 - Chemical
 - Mechanical
 - Biocontrol

- Exclusion is the most cost effective
- Eradication rarely attainable – need early detection
- Chemical/Mechanical is expensive and can have negative impact on environment
- Biocontrol is most cost effective and safest to environment once pest established

- ### Chemical/Mechanical Control Projects
- Coqui frogs
 - Nettle Caterpillar
 - Little fire ant
 - Varroa Mite
 - Thorny kiawe
 - Fountain grass
 - Fireweed

Biocontrol Projects

- Erythrina Gall Wasp
- Fireweed
- Nettle Caterpillar
- Miconia
- Ivy gourd
- Salvinia
- Banana aphid
- Papaya mealybug

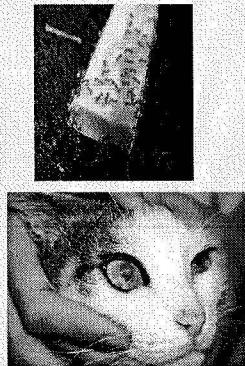


Coqui Frog Control



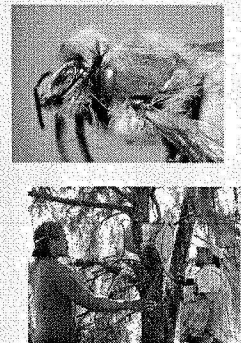
Little Fire Ant

- Known throughout East Hawaii
- Kauai
 - one population – contained
 - Detection surveys in ports & nurseries (KISC)
- Oahu, Kona, Maui (MISC), Molokai (MoMISC)
 - surveys in nurseries and ports



Varroa Mite

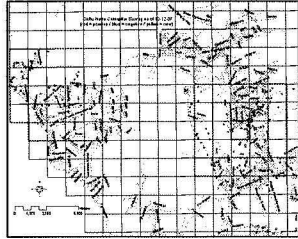
- Restricted to Oahu (widespread)
- Objective:
 - Keep off of other islands
 - Eliminate from Oahu ports
 - Reduce Oahu population
- Partnerships
 - Federal, beekeepers, RCUH,
- Funding
 - \$650k State Legislature
 - RCUH \$200K (2 postdocs and field help)
 - Compensation to beekeepers \$250k
 - HDOA \$150k (spent \$85k)
 - Public outreach \$50k



Nettle Caterpillar



- Big Island
 - Established, control
- Oahu
 - Waianae – eradicate
 - Kipapa – contain
- Maui
 - Delimiting survey
- Kauai
 - Detection survey
- Collaborative: USDA, MoMISC, MISC, OISC, US Army, DLNR
- Biocontrol



Erythrina Gall Wasp



- Collaborative work on pesticide treatments (UH)
- Biocontrol
 - Tanzania, S. Africa, Madagascar
 - 3 agents
 - Request for release for *Eurytoma* sp.
 - USDA, OEQC, HDOA

Fireweed

- Range weed
- Poisonous
- Biocontrol
 - Moth from Madagascar
- Completed host specificity research on 71 potential host plants
- Request for release based on research
 - USDA, OEQC, HDOA



Resources

General funds

- Staffing (\$1.2 million)
 - 33 positions (statewide)
 - Kauai (2), Maui (2), Hawaii (7), Oahu (22)
 - 5 new positions (under recruitment)
 - 2 retirements
- Operations (\$173,000 [plus \$650,000 mites])

Federal funds (survey)

- 2 positions (\$122,000)
- Operations (\$144,000)